

Sub. a1 >

1. A method of controlling a computer game, comprising the steps of:
 - 2 imaging a sequence of scenes including the head of a user of the computer; and
 - 4 comparing visual characteristics from scene to scene center to determine movement of the user's head within the scene; and
 - controlling the game in accordance with the movements.
2. The method of claim 1, wherein the visual characteristics include color, shape or location.
3. The method of claim 1, wherein the visual characteristics include a combination of static and dynamic characteristics.
4. The method of claim 3, further including the step of modeling of the dynamic characteristics to yield an estimate of head position.
5. The method of claim 1, further including the step of initiating the head tracking through a graphical user interface.
6. The method of claim 5, wherein the graphical user interface provides a bounding box displayed on the screen to assist in targeting the user's head.

7. The method of claim 2, further enabling a match in color despite differences
2 arising from lighting and shadows.
8. The method of claim 2, further enabling a match in color within a threshold of
2 hue.
9. The method of claim 1, wherein step of comparing the visual characteristics
2 includes a comparison of pixels from scene to scene.
10. The method of claim 1, further including the step of determining if the user's
2 head has moved outside of the scene.
11. The method of claim 1, wherein:
2 the visual characteristic is color; and
further including the step of finding a weighted average of color to compute the loc
4 based upon action of the user's head based upon color alone.
12. The method of claim 1, further including the step of segmented a region
2 defined by a predetermined closeness of color as an estimate of target shape.

CYB-07003/03
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13. The method of claim 1, further including the step of continuing to track the
2 user's head when moving in front of or behind a similarly colored object in the scene.
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